

3. Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method of detecting a process failure in a distributed system having at least one network, the method comprising steps of:

- (1) measuring a first period of time between an instance a last heartbeat was received over a network from a first process executing on a first host and a later instance in time;
- (2) measuring a second period of time between an instance a last heartbeat was received over said network from a second process executing on a second host and said later instance in time;
- (3) comparing said first and second periods of time with a predetermined threshold; and
- (4) determining whether a process failure, and not a network failure, occurred in response to said comparison in step (3).

2. (Original) The method of claim 1, wherein step (3) further comprises steps of:
calculating a difference between said first period of time and said second period of time; and
comparing said difference to said predetermined threshold.

3. (Currently amended) The method of claim 2, wherein said step (4) further comprises steps of:

detecting a failure of said second process in response to said difference equaling
or exceeding said predetermined threshold.

4. (Original) The method of claim 1, wherein said steps are performed as computer-executable instructions on a computer-readable medium.

5. (Canceled)

6. (Currently amended) A method of detecting a network failure in a distributed system, the method comprising steps of:

- (1) arranging for at least two processes executing respectively on first and second hosts to generate heartbeats and to apply them to a network;
- (2) [[(1)]] determining whether a heartbeat is received over said network from at least one of said ~~one~~ processes in the distributed system prior to an expiration of a heartbeat timeout; [[and]]
- (3) [[(2)]] detecting a failure of said [[a]] network, as opposed to failure of a process, in said system in response to not receiving a [[said]] heartbeat from at least one of said processes prior to said expiration of said heartbeat timeout;[[.]]
- (4) if at least one heartbeat is received, determining whether heartbeats are received from all of said at least two processes; and
- (5) detecting a failure of at least one of said processes in response to not receiving heartbeats from all of said at least two processes.

7. (Original) The method of claim 6, wherein said steps are preformed as computer-executable instructions on a computer-readable medium.

8. (Canceled)

9. (Currently amended) A distributed system including a plurality of hosts connected via at least one [[a]] network, wherein each host executes at least one [[a]] process in said distributed system, said system comprising:

- [[a]] first, second, and third hosts of said plurality of hosts executing respectively
[[a]] first, second, and third processes and interconnected by a network, at
least said second and third processes generating heartbeats;

wherein said first process on said first host is operable to detect one of failure of said [[a]] second process executing on said ~~one of~~ second host and failure of said network, detection of failure of said network being based on expiration of a period of time without reception of ~~to receive~~ any [[a]] heartbeats transmitted over said network from at least one of either of said second and third processes on said second and third ~~plurality of~~ hosts, and failure of said second process being based on expiration of a period of time with reception of at least one heartbeat transmitted from said third process over said network but without reception of any heartbeats transmitted from said second process over said network.

10. (Currently amended) The system of claim 9, ~~further comprising:~~ wherein:
~~a third host of said plurality of hosts executing a third process;~~
said first process on said first host is operable to measure a first period of time between an instance when a last heartbeat was received from said third process on said third host on said network and a later instance in time, and to measure a second period of time between an instance when a last heartbeat was received from said second process on said second host on said network and said later instance in time; and
said first process on said first host is ~~being~~ further operable to compare said first and second periods of time with a predetermined threshold, and detect a failure of said second process in response to said comparison.

11. (Currently amended) The system of claim 10, wherein said first process on said first host is further operable to calculate a difference between said first period of time and said second period of time, and to compare said difference to said predetermined threshold.

12. (Currently amended) The system of claim 11, wherein said first process on said first host is operable to detect said failure of said second process in response to said difference exceeding said predetermined threshold.

13. (Currently amended) The system of claim 12, wherein said first process on said first host is operable to remove said second process from a view in response to detecting said failure of said second process.

14. (Currently amended) The system of claim 9, wherein said first process on said first host is operable to determine whether a heartbeat is received from at least one of said second and third processes over said network ~~other host~~ in said system prior to an expiration of a heartbeat timeout.

15. (Currently amended) The system of claim 14, wherein said first process on said first host is further operable to detect said failure of said network in response to not receiving a heartbeat from said at least one of said second and third processes over said network ~~other host~~ prior to said expiration of said heartbeat timeout.